

The goal of making broadband internet available nationally at competitive prices is certainly a worthy goal. I live in a semi-rural area, and was unable to obtain broadband service until February of this year. I understand the frustration of those who desire the service and are unable to receive it. For a part of this time, I used a satellite based internet service (DirecWay) which was somewhat more expensive and somewhat slower than DSL and cable. However, I am not convinced that this will not be the case with BPL when it is delivered to truly rural locations. At this time, I do not see a rush of trial sites in rural areas. Rather, it seems that the trial sites are all in suburban locations.

As a degreed Electrical Engineer with thirty four years of experience in rf and communications systems, I am dismayed by the approach of both the BPL equipment vendors and the FCC. While over regulation stifles innovation and progress, chaos, also, does the same. The Commission should have established basic requirements for this technology well before the current field trials. Basic requirements should have included frequencies and frequency bands that must be completely avoided, such as defined in the NTIA report. Just this one instance of neglect will result in rendering existing BPL designs unusable in many areas. Standards should have been developed for field strength limits based on the noise floor for the various portions of the spectrum these systems will use. The test methods for measuring the field strength should have been developed and defined.

You may view this (and apparently do view this) as excessive regulation, but you are charged with protecting the spectrum, and you are not fulfilling your charter. Basic system requirements would have established clear system goals for the equipment and system designers. They would not have to learn by trial and error what the requirements must be. The Commission may have decided that it would not develop system requirements, because cable and DSL developed (from a technical standpoint) without FCC intervention. However, neither of these systems radiate and pollute the spectrum when implemented correctly.

I do salute the NTIA for an excellent technical volume, and fully support their recommendations in every respect. I pray that you will accept help from them as you progress with your rulemaking. I do not know whether the FCC is technically or financially capable of developing the requirements and rules for BPL. Some of your quotations in the NPRM are just plain embarrassing. There are many examples, but one of my favorites is your quotation of the Southern Company -

"It argues that its research to date would suggest that a BPL signal injection point can appear like a point-source radiator, with the power line having characteristics somewhere between a waveguide and an antenna."

What an enlightening technical statement! A door has radiation characteristics between that of a waveguide and that of an antenna. A door has radiation characteristics between that of a waveguide and that of an antenna. A cat has radiation characteristics between that of a waveguide and that of an

antenna. A jackass has radiation characteristics between that of a waveguide and that of an antenna. Please let the NTIA help! The lack of technical knowledge by the preparers of the NPRM is both astounding and embarrassing for the United States in the eyes of the world.

Please obtain adequate technical services as you proceed.

I ask you to consider the items listed below as part of your rulemaking proceeding

Marketing

BPL marketing literature should clearly state that the service uses Part 15 devices and as such must not cause interference to licensed services and must accept interference from licensed services. During the initial marketing period - until BPL technology is mature and proven to be interference free - the literature should also state that test data has indicated a possibility of interference to licensed services and susceptibility to interference from licensed services.

Interference Resolution

The BPL carrier should be modulated using some form of commonly detectible modulation, such that disputes do not arise over whether the interfering signal is of BPL origin. A procedure for documenting interference independent of the BPL must be developed, and should include locally a

A database of the location of each BPL injector, repeater, or other radiator should be accessible via the internet. This database should be available prior to the startup of any system, kept current, and updated prior to any system expansion. The database should indicate in real-time the operating band of each device as well as the device's location. It may prove beneficial to include the Manufacturer and model number of the device.

In the event that interference occurs to a BPL system, the Commission should clearly state that there will be no operational restrictions placed on any licensee, licensed service, or other Part 15 device, until the Commission has determined that its regulations are being violated.

In the case of interference to a licensed service, the BPL system operator should be given 24 hours to respond and correct the interference. If the interference occurs a second time to the same licensee within a one month period, the BPL operator should be required to respond in 1 hour. A third instance of interference within a one month period should require mandatory shutdown of the offending device(s) until investigated by the FCC or other independent and authorized testing authority. Failure to respond

in the defined time periods should subject the operator to fines as well as civil lawsuits, if the BPL operator has caused monetary losses to a duly licensed commercial user.

Since utilities have long been known for denying interference complaints, a procedure must be established such that independent certified contractors can verify interference complaints when the utility denies that it is the source. If no fault is found by the contractor, the licensee requesting the test would be required to pay the contractor's fees. If the contractor found that the interference was caused by the utility, the utility would be liable for test costs, fines, and loss of revenue

Definition of Harmful Interference

The current definition of harmful interference needs to be quantified, such that it can be measured using commonly available test equipment and documented procedures. In most cases, the antenna of the licensed party should be used for the measurement of the interfering signal. The signal levels near the power line are important, and should, also, have clearly defined limits and measurement procedures. However, the real determination of whether or not interference to a licensed service exists must be made based on the degradation of the noise floor using the antenna(s) of the licensee.

Yours sincerely,

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